

DATE: Wednesday, February 20, 2002 Printable Copy Create Case

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DB=U	SPT; PLUR=YES; OP=OR		
<u>L4</u>	L3 same centromere	1	<u>L4</u>
<u>L3</u>	Arabidopsis near0 thaliana	1008	<u>L3</u>
<u>L2</u>	L1 same plant\$ same centromere\$	1	<u>L2</u>
<u>L1</u>	recombinant near0 DNA	19076	<u>L1</u>

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# WEST

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L2: Entry 1 of 1

File: USPT

Dec 14, 1993

DOCUMENT-IDENTIFIER: US 5270201 A TITLE: Artificial chromosome vector

Abstract Paragraph Left (1):

The present invention relates to a recombinant DNA molecule which contains the telomere and, optionally, the centromere of a higher eukaryote, particularly a plant, the telomere itself, the centromere itself, a method of producing a polypeptide in a recipient cell which utilizes said recombinant DNA molecule, host cells transformed with said recombinant molecule, and uses for said recombinant molecule.

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### **End of Result Set**

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L2: Entry 1 of 1 File: USPT Dec 14, 1993

US-PAT-NO: 5270201

DOCUMENT-IDENTIFIER: US 5270201 A

TITLE: Artificial chromosome vector

DATE-ISSUED: December 14, 1993

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

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Ausubel; Frederick M. Newton MA

US-CL-CURRENT: 435/418; 435/252.33, 435/254.2, 435/320.1, 435/325, 435/419, 536/23.1

CLAIMS:

What is claimed is:

1. A recombinant DNA construct comprising a telomere, said telomere consisting essentially of tandem repeats of the sequence

### 5'-CCCTAAA-3'

in sufficient quantity to provide a telomere property to a linear double-stranded DNA construct when said telomere is double-stranded and is oriented such that the C-rich 5' end of each tandem repeat is closer to the blunt end of the telomere than the A-rich 3' end of each repeat.

- 2. The recombinant DNA construct of claim 1, which additionally comprises a yeast centromere.
- 3. The recombinant construct of claim 1, which additionally comprises a yeast autonomous replicating sequence.
- 4. The recombinant construct of claim 1, which additionally comprises a selectable marker gene.
- 5. A recombinant DNA construct comprising a telomere of a higher eukaryotic organism, a yeast centromere, and a yeast autonomous replicating sequence, said telomere consisting essentially of tandem repeats of the sequence

#### 5'-CCCTAAA-3'

in sufficient quantity to provide a telomere property to a linear double-stranded DNA construct when said telomere is double-stranded and is oriented such that the C-rich 5' end of each tandem repeat is closer to the blunt end of the telomere than the A-rich 3' end of each repeat.

6. The recombinant DNA construct of claim 5, which additionally comprises a selectable marker gene.

- 7. The recombinant DNA construct of any one of claims 1 or 4, which is capable of being maintained as a chromosome.
- 8. A plasmid comprising the recombinant DNA construct of claim 7.
- 9. The plasmid of claim 8, wherein said plasmid further comprises an origin of replication and a selection marker that function in bacteria.
- 10. The plasmid of claim 9, wherein said bacteria is E. coli.
- 11. The plasmid of claim 8, wherein said plasmid further comprises an origin of replication and a selection marker that function in yeast.
- 12. The plasmid of claim 11, wherein said yeast is S. cerevisiae.
- 13. The construct of claim 7, which additionally comprises a desired gene sequence.
- 14. The construct of claim 13, wherein said desired gene sequence is selected from the group consisting of:
- (1) a gene sequence of a hormone gene;
- (2) a gene sequence of an antibiotic resistance gene;
- (3) a gene sequence of a nitrogen fixation gene;
- (4) a gene sequence of a plant pathogen defense gene;
- (5) a gene sequence of a plant stress-induced gene;
- (6) a gene sequence of a toxin gene; and
- (7) a gene sequence of a seed storage gene.
- 15. The construct of claim 14, wherein said construct is capable of expressing said desired gene sequence.
- 16. The construct of claim 14, wherein said construct is capable of expressing said desired gene in a prokaryote.
- 17. The construct of claim 14, wherein said construct is capable of expressing said desired gene in a eukaryote.
- 18. The construct of claim 17, wherein said eukaryote is a higher eukaryote.
- 19. The construct of claim 18, wherein said higher eukaryote is a plant.
- 20. A recombinant DNA construct comprising the pAtT4 plasmid, Accession Number ATCC 67577.
- 21. A recombinant DNA construct comprising the sequence of FIG. 4.
- 22. A host cell transformed with the recombinant DNA construct of any one of claims  $1 \ \mathrm{or} \ 5$ .
- 23. The host cell of claim 22, which is a eukaryotic cell.
- 24. The host cell of claim 23, which is a higher eukaryotic cell.
- 25. The host cell of claim 24, which is a plant cell.